The Birdfish

Churchill Northern Studies Centre Newsletter

Fall 2006

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Become a member: visit the back page for more information on how you can support the CNSC

Established in 1995, the
Churchill Northern Studies Centre
is an independent, non-profit
research station located along the
Western coast of Hudson Bay.

Mission statement:
"To understand and sustain the North"

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The Birdlish newsletter is produced by CNSC Staff with assistance from researchers and program participants.
Cover photo of 2006 Earthwatch Student Challenge Award Program participants dipnetting for tadpoles. Photo credit: Peter Harms

Subarctic Survivor

I understand completely that most people wouldn't consider building igloos in -30° Celsius weather a holiday.

Subarctic Survivor: Tradition and Culture of Winter Survival is not actually a survival course in the strictest sense. Here at the CNSC, we figure daily life is enough of a trial on its own without going to any unnecessary extremes. What the course is, rather, is a glimpse into life at the edge of the treeline where the winters are long, dark and snow remains the dominant landscape feature for over eight months of the year. How do animals (including humans) not only survive in these harsh conditions, but actually thrive, building rich cultures and colourful histories? What valuable teachings did the early Europeans learn from the native peoples and which did they ignore at their great peril? How is it that wood frogs can freeze solid each fall, miraculously thawing in the spring? These topics are best explained in the warmth of a classroom and better appreciated during daily field outings under the guidance of people with first-hand experience.

This is a highly active program suited to the energetic and young at heart. In addition to learning how to build both the Inuit igloo and Dene quinzhee, participants will spend an afternoon dogsledding in the boreal forest, tour the frozen Churchill River by tracked vehicle and still have ample time to gaze in wonder at the spectacular aurora borealis. Evening lectures on winter ecology, an afternoon at the renowned Eskimo Museum, snowshoeing and presentations by aboriginal speakers round out this truly unique experience.

I'm often asked if participants really have to spend a night in an igloo? Not at all. You are quite welcome to sleep the night away, snug in your room with the heater turned on high. But you're going to feel awfully foolish when I tell you that I've built igloos with 15-year old girls from Pasadena, California and every one, spent at least one unforgettable night snug in their snowy creations.

Michael Goodyear is the Executive Director of the Churchill Northern Studies Centre and teaches Subarctic Survivor to enthusiastic world travelers each spring. This year's course runs from March 1-6, 2007. He wasn't joking about the 15-year old girls from Pasadena.

Programming Designed for the Avid Learner!

Learn more about our Subarctic World

Each year, the CNSC delivers our very own Learning Vacation (LV) non-credit courses. These educational programs promote an understanding of the subarctic flora and fauna in the Churchill area and are open to all ages, including families. The CNSC also works closely with Elderhostel (EH) and Earthwatch to deliver top quality programming. For more information and pricing for all courses visit our website at

www.churchillmb.net/~cnsc or email us at cnsc@churchillmb.net

Fall 2006 Courses at the CNSC	**Dates**	**Instructor**
EH: Lords of the North: Polar Bears of Hudson Bay I	October 14 - 19	Dr. Terry DeBruyn
EH: Lords of the North: Polar Bears of Hudson Bay II	October 21 - 26	Dr. Terry DeBruyn
EH: Lords of the North: Polar Bears of Hudson Bay III	October 28 - Nov 2	Dr. Nick Lunn
LV: Lords of the Arctic: Hudson Bay's Polar Bears	November 4 - 9	TBA
LV: Lords of the Arctic: Hudson Bay's Polar Bears	November 11- 16	TBA
Winter 2007 Courses at the CNSC		
EH Northern Lights and Astronomy I	January 18 - 23	Chris Brown
LV Winter Skies: Aurora and Astronomy	February 10 - 15	Roger "Starman" Woloshyn
EH Northern Lights and Astronomy II	February 15 - 20	Roger "Starman" Woloshyn
LV Subarctic Survivor	March 1 - 6	Michael Goodyear

2006-07 EarthWatch Programs at the CNSC
Climate Change at the Arctic's Edge with Dr. G.P. Kershaw
Check out the Earthwatch website (www.earthwatch.org) for upcoming teams in October 2006 and February 2007.

Polar Bears of Manitoba with Dr. Jane Waterman and Dr. Jim Roth
This project is taking a hiatus this year to work with the past five years of data that have been collected.

Join Us for a Great Winter Vacation in 2007!

The clear skies of Churchill's winter will thrill and challenge any sky watcher. With over three hundred nights of auroral activity, Churchill is the best spot on the planet to view the northern lights. Our instructor will lead you through the fascinating world of comets, deep sky objects, meteors and northern lights. Classroom lectures and in-depth discussions will expand your knowledge and spark your interest in astronomy. Learn how to utilize your digital camera to get the best possible photographs of the aurora borealis. Enjoy a field trip across the Churchill River by track vehicle. Spend an afternoon dog sledding and swapping tall tales with local trappers. Featured guest presentations on aboriginal culture and traditions. Explore the Town of Churchill including the Eskimo Museum and the historical exhibits at Parks Canada. A selection of traditional foods (caribou, arctic char and warm, home baked bannock bread) served with a sample of Canadian wines rounds out this arctic adventure.

Learning Vacation: Winter Skies Aurora and Astronomy Feb. 10-15, 2007
$900.00 CDN per person

Elderhostel Northern Lights and Astronomy January 18-23, or Feb. 15-20, 2007
$ 892.00 USD per person

Summer Research Activities

The summer of 2006 at the CNSC was definitely a busy one. We were happy to welcome back several continuing research programs such as Dr. Peter Kershaw's Climate Change at Arctic's Edge Earthwatch Institute programs as well several new researchers. The CNSC promotes research and education in Canada's arctic treeline environment where the southern edge of the tundra meets the northern edge of the boreal forest and intersects with the Hudson Bay marine environment.

This summer's edition of our newsletter research activities focuses on the wildlife of the Churchill area. All three of these articles highlight recipients of our Northern Research Fund. Funding for the Northern Research Fund is generously provided by the CNSC, Manitoba Conservation and Calm Air.

Killer whale, *Orcinus orca*, monitoring in the eastern Canadian Arctic and their potential effects on the beluga whale population in western Hudson Bay

- article and photos submitted by Steve Ferguson[1] and Elly Chmelnitsky[1,2]
1 Fisheries and Oceans Canada, Winnipeg
2 University of Manitoba

With a recent increase in sightings of killer whales in the summer in western Hudson Bay and little being known about killer whales in the Arctic, a group of researchers and students at Fisheries and Oceans Canada in Winnipeg, MB formed Orcas of the Canadian Arctic (OCA) to start an Arctic killer whale monitoring program. The first year of fieldwork, 2006, is based in western Hudson Bay (Churchill, MB and Repulse Bay, NU). In Churchill, the

field staff includes Steve Ferguson, Elly Chmelnitsky, Alex Smith, and Corinne Pomerleau.

Killer whales in the Canadian Arctic have been observed preying on marine mammals including beluga and bowhead whales, narwhal and harp seals. Even though killer whales are still thought to be uncommon in the Canadian Arctic, a small number are capable of having a significant impact on prey populations. Anti-predator behaviour such as whales grouping and swimming close to shore in response to killer whales has been observed in marine mammal species in the eastern Canadian Arctic by locals and researchers. This indicates that killer whales may be an important marine mammal predator in the Arctic. With beluga whales being a potential prey species, an increase in killer whales may affect their behaviour, distribution, and movements. Anti-predator behaviour has been observed in beluga in the Churchill River which supports the proposed theory that belugas use the estuary for protection from predators such as killer whales.

Observations for killer whales in Churchill are being done mostly from the grain tower at the Port of Churchill and from Zodiacs. Acoustic recordings will also be taken from the Zodiacs as killer whales may be detected by their vocalizations before they are seen. Also, an acoustic recording device designed to detect whale calls has been deployed about 10 km off the mouth of the Seal River. Past and future sightings information is also being collected from locals and tourists by distributing sightings forms to local businesses and hotels.

Photographs will be taken of any killer whales seen and these can be used to identify individual whales. They may also be matched to photographs in existing catalogues such as on the east coast of Canada or matched from year to year making it possible to track movements within the Arctic. It is possible that the killer whale groups observed in recent years in western Hudson Bay may consist of one or more of the same individuals.

The photographic, acoustical and sightings information collected in Churchill will be used to estimate abundance, seasonal distribution, movements, behaviour and possible effects of killer whales on potential marine mammal prey species.

This research was funded in part by the CNSC Northern Research Fund Program with a portion of the funding sponsored by:

Calm Air

Polar bear (*Ursus maritimus*) behaviour and tourist activity at Gordon Point, Churchill, MB, Canada

- submitted by Kim Daley

Polar bears of the southwestern population of Hudson Bay come ashore during the ice-free period at Churchill from June/July until November where they live off their stored fat reserves. During that time, animals tend to spend most of their time resting to conserve energy. A tourism industry has been developed around this population of polar bears since the1980s. At least 10,000 visitors come to Churchill to view polar bears from large customized tundra vehicles and two tundra train lodges. At the same time, helicopter tours are offered to watch bears and other wildlife from the air. This industry is an important source of income for the community of Churchill. Currently there are no specific regulations or codes of conduct that are enforced to sustain this industry.

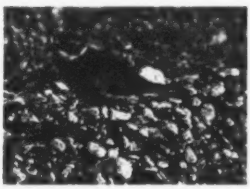
The 2003 field season commenced data collection of interaction between polar bears and tundra vehicles, number of tundra vehicles in area, number of bears in area, general bear behaviour, helicopter over flights, helicopter take offs and landings, and the use of Designated Polar Bear Resting Areas (DPBRA) by bears, tundra vehicles, and helicopters. Timed behavioural data is collected from the tower located at Gordon Point, using spotting scopes and stopwatches. The tower is accessed on a daily basis by ATV.

The potential impacts on bear behaviour by these interactions are poorly understood. The scientific literature provides many examples how human activity impacts other wildlife. Animals react with a change in either behaviour (*i.e.*, displacement from resting or feeding areas, aggression, etc.) and/or physiology (*i.e.*, increased heart rates, increased level of stress hormones, decreased immune system, weight loss, death, etc.). Polar bears are being forced to stay on land longer because of the prolonged ice-free period of Hudson Bay due to the change in its thaw and freeze cycle. It is important to establish a baseline of scientific data to recognize other possible impacts acting on the behaviour of bears to ensure sustainability of the industry and humane treatment of bears. When wildlife tourism is not carefully controlled and managed it can become incompatible with conservation efforts and lead to the exploitation of a resource. Exploitation in the context of intense wildlife viewing over a short period of time may be detrimental to the species.

This project has been greatly supported by local tour operators and management agencies. The results will be fully available for their use to design driver/company/ tourist manuals regarding bear viewing and the respective conduct. Subsequently, other wildlife agencies dealing with bear viewing activities could utilize certain parameters of this research to examine possible impacts of visitors on wildlife behaviour. Education in tourism has an incredible market potential for raising money for conservation and preservation of target species.

Tracking a population decline: habitat selection of Semipalmated plovers in the Churchill region

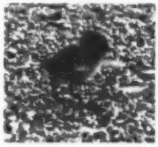
- article and photos submitted by Erica Nol, Trent University



In 2005, for the first time in 7 years, normal temperatures prevailed during the early breeding season of the Semipalmated Plover. Thus, nesting began at average dates and 52 pairs of plovers bred in the greater Churchill region. This was an increase of 100% or more over low numbers of breeding pairs in the years 2000, 2002 and 2004, all breeding seasons with below normal temperatures. Thus, this shows the potential of the local population to rebound after reductions.

We presume that the new breeding individuals were from cohorts from previous successful years that dispersed to the Churchill region. We are still determining whether the Churchill population has sink or source status. Initial analyses indicate that the population relies heavily on immigration to maintain stability. Dispersal of juveniles is implicated in this immigration as the data from 2005 again suggest high site fidelity of returning adult breeders.

Mr. Linh Nguyen (Ph.D. candidate, Trent University) and Mr. Andrew Carnio (B.Sc. candidate, Trent University) took care of the banding program for the year. The broader objective of the study is to maintain the banded population and to document variation in reproductive success as a function of breeding season temperatures. Linh and Andrew were able to band 92% of all breeding pairs, and most chicks, a very commendable accomplishment that required considerable persistence. Breeding success was also quite high (70%) in this year. Linh and Andrew were able to obtain good measures of fledgling success by following young to their feeding grounds.

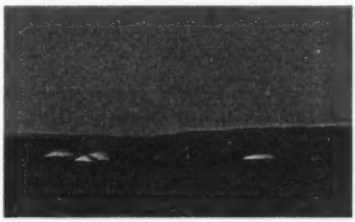


Highlights from Elderhostel Beluga Whales and Wildflowers June 29-July 4, 2006:

This group was up for anything and our schedule was frequently thrown to the wind when a great opportunity came along. Case in point: during one of our first lectures a call came via radio about a polar bear sighting. In less than a blink of an eye the entire group was in the van and under way. What a pay-off it was as we were able to watch the bear lounge on the rocks for just a few minutes before he disappeared into the rocks.

And, for the first time in recent memory we had an Elderhostel Team for the Hudson Bay Dip to celebrate Canada's Birthday on July 1st. The "Elder Ducks" were true to their name and ducked in and out of the water in record time!

The annual bannock roast and tea at Bird Cove was looking like a big hit, at least until an uninvited guest swam up and had us scampering back into the van. Although we were left without refreshments, we did have one of the best polar bear stories of the summer!



Welcome to our Staff!

Several seasonal staff rejoined our team again this summer. Welcome back to Robert Ellsworth who also brought his wonderful wife Rosalind with him to help us out in the kitchen for the summer. We'll take good care of him this fall and send him back to you in Newfoundland. Welcome back to Roland Martineau and thanks for your continued assistance in the garage. Welcome also to Brent Young, Summer Research Technician. Brent is a third year Coop student at the University of Manitoba and will be finishing his degree this fall. Thanks for a great summer all!

The Hudson Bay Dip 2006 July 1, 2006 - Canada Day

This year saw a record participation of six teams from the CNSC in the Annual Churchill Hudson Bay Dip. Dr. Kershaw lost his title to the local Churchill guys but was happy with his second team placement and is plotting his strategy for next year! Congratulations to the CNSC "Bay Dip Beavers" for capturing the Best Dressed Trophy for the Bay Dip. We look forward to next year's antics!

We managed to get most of the CNSC participants in the following photo. Thanks Rhiannon for a great photo!

2007 Northern Research Fund Call for Proposals

The CNSC is pleased to announce this year's Northern Research Fund (NRF) competition. As part of our mandate to 'understand and sustain the North', the Churchill Northern Studies Centre, in cooperation with Manitoba Conservation and Calm Air International, provides funding to various research projects from across Canada. The goal of the Northern Research Fund (NRF) is to enhance field research conducted by scientists utilizing the facilities and services of the CNSC. It is a fund matching program that awards a combination of cash and in-kind support for expenses normally encountered during the course of research programs.

2006 Northern Research Fund support will consists of 250 CNSC user days and 100 CNSC vehicle days, $7,000 cash and Winnipeg-Churchill travel vouchers. The total NRF support for the 2007 field season is valued at approximately $25,000.

All researchers may apply to the NRF program. Research in all disciplines is eligible but applications for projects concerned with topics outlined in the "Operational Mandate" of the CNSC are particularly welcomed.

Please visit our website and click on research funding opportunities to download the application form. Application deadlines will be provided on our website.

Elderhostel Birds, Blooms and Bergs June 15-20, 2006

- Submitted by Heather Macleod, CNSC Program Coordinator

Perhaps this Elderhostel should have been called the "Birds, Blooms, Bergs and Belugas" because, for the first time ever in 18 years Dr. Bob Alison has been running the course there were beluga whales in the Churchill River due to the early arrival of spring! Many wildflowers were seen during this course that had never been seen by any previous courses because they would usually bloom after the course was completed.

Some of the highlights were the "Bay Dip", the red fox mother and kit spotted by the side of the road and the enjoyable evening of caribou, arctic char, wine and companionship shared by the group on the eve of departure. And, on June 16th we were both the hottest place in Canada (33 degrees Celsius and the coldest at 5 degrees C) within a 24 hour period! The "Bay Dip" was a particular highlight as some of the group walked below the high tide line, while those with 'cold feet' stayed on shore and kept their feet dry.

In total 69 species of birds were spotted with one particularly interesting gull, the Franklin's gull being spotted for the first time.

Bears at the Door!

There's so much activity at the CNSC this summer that even the bears are joining in! In mid July the bears began to come ashore from the sea ice and several have been spotted in the area this summer keeping everyone on the lookout. Join one of our educational programs to learn more about these creatures of the ice and tundra.

Thanks to the July Earthwatch team for the photo.

Join the Growing CNSC Membership!

The CNSC relies on our members to spread the good word about our research and educational programs here in Churchill, MB. For an annual donation of $25 CDN, members receive the Birdfish newsletter, membership discounts and the opportunity to support research and education in the Canadian subarctic.

Every year membership dues contribute to approximately 30 research projects, university field courses and school and youth group tours. Participation in EarthWatch, Elderhostel and Learning Vacation programs ensures that the CNSC remains open and accessible for research and educational programs throughout the year! In addition, the support of our members has allowed us to keep fees for researchers and university credit courses at a modest rate.

The CNSC also offers members first consideration when awarding volunteer positions (in high demand during polar bear season).

Please consider making a donation to support northern research and education programs in Canada. Tax receipts are available for Canadian donations of $25 or more. See the back page of the newsletter!

A BIG THANKS from CNSC Staff!!
Volunteers Summer 2006

- article and photos by Heather Macleod

Once again the CNSC was blessed with a dedicated staff of volunteers from Canada, the United States and Australia. Thanks to all for the contributions you made to the successful summer season.

Our Volunteer Staff for Summer 2006 included several long-term stays and we are grateful for your assistance, friendship and great time.

Volunteers (left to right in the photos)
Rhiannon Hamdi - Victoria, B.C., Canada
Shannon Birnie - Canmore, Alberta, Canada
Kade Cash - Marysville, Tennessee, USA
Merle Peters - USA
Ruth Heindel - North Ferrisburgh, Vermont, USA
Livia Goodbrand - Halifax, Nova Scotia, Canada

Martha Sullivan - Ottawa, Ontario (sorry we missed your photo Martha!)

We have a Lucky Winner!

Each newsletter issue we pick one winner of a CNSC Tshirt from those who renew their CNSC membership.

The Winter 2006 winner was: Paul Shumay from Saskatoon, SK
The Spring 2006 winner was: Chiquita Phillips from Toronto, ON

Renew your membership now for your chance to win!

Join the Churchill Northern Studies Centre TODAY!

We rely on our membership to provide the support and funding needed to make the CNSC a place for world class research and education programs in the Canadian subarctic. Join us now and be a part of these exciting times at the CNSC.

____ I would like a one-year CNSC membership
Individual ($25)_____ Student/Senior ($20) _____ Family ($40) _____ Corporate ($500) _____

____ Enclosed is my donation of $ _____
**Tax receipts are available for Canadian donations of $25 or mo*

Name: _____

Address: _____

City: _____ Province/State _____ Postal/Zip Code: _____

Telephone: _____ Email: _____

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